## (19) World Intellectual Property Organization

International Bureau





### (43) International Publication Date 14 July 2005 (14.07.2005)

#### **PCT**

# (10) International Publication Number WO 2005/064704 A1

(51) International Patent Classification<sup>7</sup>: 51/30, 27/148

H01L 51/20,

(21) International Application Number:

PCT/GB2004/005268

(22) International Filing Date:

16 December 2004 (16.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0330134.8

30 December 2003 (30.12.2003) GB

(71) Applicant (for all designated States except US): THE UNIVERSITY OF LIVERPOOL [GB/GB]; Senate House, Abercromby Square, Liverpool L69 3BX (GB).

- (72) Inventor; and
- (75) Inventor/Applicant (for US only): ECCLESTON, William [GB/GB]; 8 College Avenue, Formby, Merseyside L37 3JL (GB).
- (74) Agent: W.P. THOMPSON & CO; Coopers Building, Church Street, Liverpool L1 3AB (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

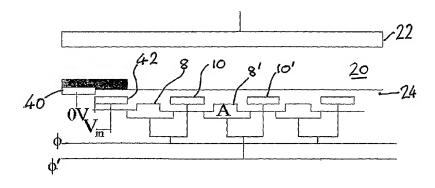
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CHARGE COUPLED DEVICE



(57) Abstract: A charge coupled device (CCD) is disclosed which has a semiconductor body (20) comprising polymer or oligomer semiconductor material in place of the conventional silicon. A back electrode (22) of the device is electrically coupled to the semiconductor body through a Schottky junction, reducing the availability of holes in the semiconductor body. Shift electrodes forming a shift register are driven by negative electrical potentials and accumulations of holes in p type semiconductor material represent data.